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09/955,845	09/17/2001	Shih-Zheng Kuo	9585-0056	1233

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EXAMINER	
WORKU, NEGUSSIE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/955,845	KUO, SHIH-ZHENG	
	Examiner	Art Unit	
	Negussie Worku	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29 and 36-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10-15 and 20-25* is/are allowed.

6)☐ Claim(s) *1,2,7,16-19,26-29 and 36-41* is/are rejected.

7)☐ Claim(s) *3-6,8 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. This Office action is in response to the amendment filed 10/06/07, claims 1-29, 36-41 are pending, in which, claims 30-35 were cancelled, claims 10-15, 20-25 were allowed, and claims 3-6 and 8-9 were objected to as claims having Allowable subject matter as indicated in the previous Office action. Applicant's arguments with respect to claims 1, 7, 16, 26, 36 and 40, have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2, 7, 16-19, 26-29 and 36-41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (USP 5,583,662), in view of Kodira (USP 6,233,059).

With respect to claim 1, Takahashi et al. discloses method of enhancing scan resolution, see (col.10, lines 60-68) suitable for use in a scanner with an optical sensor, (scanner 101 of fig 1) the optical sensor having a detecting cell that can detect a range comprising a predetermined number of two or more original pixels the method

comprising: (image sensor 101 of fig 1, determine the number of pixel in a reading process, if appears blurred to obviate the problem, so that the IPU 103 of fig 3, performs the enhancement process pixel by pixel basis, see col.8, lines 40-45);

Takahashi et al., does not expressly teach or disclose scanning a smooth image region, to obtain smooth image data wherein the smooth image region comprises at least the predetermined number of original pixels, and wherein the smooth image region comprises a generally uniform brightness; scanning a range of multiple original pixels, where in one or more of the scanned original pixels correspond to a document; and processing at least one of the scanned document , at least in part, according to the smooth image data. And the other scanned original pixels in the range.

Kodaira (059), in the same area of image forming device and density convert ion and shading correction apparatus teaches or discloses scanning a smooth image region, to obtain smooth image data wherein the smooth image region comprises at least the predetermined number of original pixels, and wherein the smooth image region comprises a generally uniform brightness; (prior to final scan of the original image a pre scan on the original is being performed in order to determine a condition of the original) scanning a range of multiple original pixels, where in one or more of the scanned original pixels correspond to a document (during pre-scanning a plurality of pixel elements are determined correspond to the original document); and processing at least one of the scanned documents, at least in part, according to the smooth image data and the other scanned original pixels in the range (once the condition of the original is determined during pre-scanning the system fig 1, performs a processing of image, for

adjusting and/or enhancing the average brightness of the original is calculated from the pre-scanned image, col.1, lines 40-60).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Takahashi (662) to provide scanning a smooth image region, to obtain smooth image data wherein the smooth image region comprises at least the predetermined number of original pixels, and wherein the smooth image region comprises a generally uniform brightness; scanning a range of multiple original pixels, where in one or more of the scanned original pixels correspond to a document; and processing at least one of the scanned document, at least in part, according to the smooth image data.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Tkahasi (662) by the teaching of Kodaira (059) for the purpose to provide a user with an image forming apparatus which optimizes corrective conditions with ease by eliminating image deterioration caused by image quality change with time or the characteristics of each copying machine.

With respect to claim 2, Takahashi et al. discloses the method (as shown in fig 1), wherein the smooth image data is obtained prior to scanning the document, (scanning a document on the horizontal and main scan direction, see col.6, lines 30-35).

With respect to claim 7, Takahashi et al. discloses method of enhancing scan resolution, see (col.10, lines 60-68) suitable for use in a scanner with an optical sensor, (scanner 101 of fig 1) the optical sensor having a detecting cell that can detect a range comprising a predetermined number of two or more original pixels the method comprising, (image sensor 101 of fig 1, determine the number of pixel in a reading process, if appears blurred to obviate the problem, so that the IPU 103 of fig 3, performs the enhancement process pixel by pixel basis, see col.8, lines 40-45);

Takahashi et al., does not expressly teach or disclose a predetermined number of two or more original pixels, scanning a smooth image region to obtain a smooth image data, wherein the smooth image region comprises at least the predetermined number of original pixels, and wherein the smooth image region comprises a generally uniform brightness; and processing scanned images obtained by scanning a document according to the smooth image data, wherein the smooth image data is obtained after scanning the document.

Kodaira (059), in the same area of image forming device and density convert ion and shading correction apparatus teaches or discloses scanning a smooth image region, to obtain smooth image data wherein the smooth image region comprises at least the predetermined number of original pixels, and wherein the smooth image region comprises a generally uniform brightness; (prior to final scan of the original image a pre scan on the original is being performed in order to determine a condition of the original) scanning a range of multiple original pixels, where in one or more of the scanned original pixels correspond to a document (during pre-scanning a plurality of pixel

elements are determined correspond to the original document); and processing at least one of the scanned documents, at least in part, according to the smooth image data and the other scanned original pixels in the range (once the condition of the original is determined during pre-scanning the system fig 1, performs a processing of image, for adjusting and/or enhancing the average brightness of the original is calculated from the pre-scanned image, col.1, lines 40-60).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Takahashi (662) to provide scanning a smooth image region, to obtain smooth image data wherein the smooth image region comprises at least the predetermined number of original pixels, and wherein the smooth image region comprises a generally uniform brightness; scanning a range of multiple original pixels, where in one or more of the scanned original pixels correspond to a document; and processing at least one of the scanned document, at least in part, according to the smooth image data.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Tkahasi (662) by the teaching of Kodaira (059) for the purpose to provide a user with an image forming apparatus which optimizes corrective conditions with ease by eliminating image deterioration caused by image quality change with time or the characteristics of each copying machine.

With respect to claim 16, Takahashi teaches a method (as shown in fig 1 and 2) comprising: scanning a smooth image region with a uniform brightness, (scanner 101 of fig 1, scan document by controlling the light or brightness by light control circuitry in fig 3 and 4, see col.9, lines 45-55); obtaining a standard brightness from the smooth image region, and determining a calculated brightness for at lest a portion of a second image region based at Least in part on the standard brightness, see (col.10, lines 1-7);

Takahashi et al., does not expressly teach or disclose scanning a predetermined number of multiple original pixels, wherein one or more of the scanned original pixels correspond to a second image region; and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels.

Kodaira (059), in the same area of image forming device and density convert ion and correction apparatus teaches or discloses scanning a predetermined number of multiple original pixels, (a seen in fig 1, numbers of image are to be read or scanned) wherein one or more of the scanned original pixels correspond to a second image region (the pre scanned image of fig 1-3, corresponding to the finally read image for further enhancement and correction brightness); and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels (the average brightness of the original is calculated from pre-scan image., col.1, lines 40-46).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Takahashi (662) to provide scanning a predetermined number of multiple original pixels, wherein one or more of the scanned original pixels correspond to a second image region; and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Tkahasi (662) by the teaching of Kodaira (059) for the purpose to provide a user with an image forming apparatus which optimizes corrective conditions with ease by eliminating image deterioration caused by image quality change with time or the characteristics of each copying machine.

With respect to claim 17, Takahashi teaches the method (light control circuitry in fig 3 and 4, see col.9, lines 45-55), wherein the second image region includes at Least a portion with a non-uniform brightness see (col.10, lines 1-7).

With respect to claim 18, Takahashi teaches the method (fig 3 and 4), wherein the scanning of the smooth image region with a uniform brightness is performed prior to scanning the second image region see (col.10, lines 1-7).

With respect to claim 19, Takahashi teaches the method (fig 3 and 4), wherein the scanning of the smooth image region with a uniform brightness is performed prior to scanning the second image region see (col.10, lines 1-7).

With respect to claim 26, Takahashi teaches an article of manufacture, (fig 3 and 4) comprising: a storage medium (a microcomputer is built in the IPU 103 of fig 22, to control various loads, e.g., stepping motor, operation panel, etc, having a program or instruction, to control the system of fig 22), having one or more instructions stored thereon that, if executed, result in (col.5, lines 65 through col.6, lines 1-10): obtaining a standard brightness from the smooth image region, see (col.10, lines 1-7);

Takahashi et al., does not expressly teach or disclose scanning a predetermined number of multiple original pixels, wherein one or more of the scanned original pixels correspond to a second image region; and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels.

Kodaira (059), in the same area of image forming device and density convert ion and correction apparatus teaches or discloses scanning a predetermined number of multiple original pixels, (a seen in fig 1, numbers of image are to be read or scanned) wherein one or more of the scanned original pixels correspond to a second image region (the pre scanned image of fig 1-3, corresponding to the finally read image for

further enhancement and correction brightness); and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels (the average brightness of the original is calculated from pre-scan image., col.1, lines 40-46).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Takahashi (662) to provide scanning a predetermined number of multiple original pixels, wherein one or more of the scanned original pixels correspond to a second image region; and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Tkahasi (662) by the teaching of Kodaira (059) for the purpose to provide a user with an image forming apparatus which optimizes corrective conditions with ease by eliminating image deterioration caused by image quality change with time or the characteristics of each copying machine.

With respect to claim 27, Takahashi teaches an article of manufacture, (fig 3 and 4), wherein the second image region comprises at least a portion with a non-uniform

brightness, (the quantities of the light are controlled to a predetermined adequate quantity by feed back control, see (col.9, lines 45-60, and (col.10, lines 10-15).

With respect to claim 28, Takahashi teaches an article of manufacture, (fig 3 and 4), wherein the scanning of the smooth image region with a uniform brightness is performed prior to scanning the second image region, (col.12, lines 17-25).

With respect to claim 29, Takahashi teaches an article of manufacture, (fig 3 and 4), wherein the scanning of the smooth image region with a uniform brightness is performed after scanning the second image region, (col.12, lines 17-25).

With respect to claim 36, Takahashi teaches an apparatus, (fig 3 and 4), comprising: means (AGC processing of fig 2) for obtaining a standard brightness from the smooth image region 9as shown in fig 2, see (col.10, lines 1-7).

Takahashi et al., does not expressly teach or disclose scanning a predetermined number of multiple original pixels, wherein one or more of the scanned original pixels correspond to a second image region; and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels.

Kodaira (059), in the same area of image forming device and density convert ion and correction apparatus teaches or discloses scanning a predetermined number of

multiple original pixels, (a seen in fig 1, numbers of image are to be read or scanned) wherein one or more of the scanned original pixels correspond to a second image region (the pre scanned image of fig 1-3, corresponding to the finally read image for further enhancement and correction brightness); and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels (the average brightness of the original is calculated from pre-scan image., col.1, lines 40-46).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Takahashi (662) to provide scanning a predetermined number of multiple original pixels, wherein one or more of the scanned original pixels correspond to a second image region; and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Tkahasi (662) by the teaching of Kodaira (059) for the purpose to provide a user with an image forming apparatus which optimizes corrective conditions with ease by eliminating image deterioration caused by image quality change with time or the characteristics of each copying machine.

With respect to claim 37, Takahashi teaches the apparatus, (fig 3 and 4), means for determining of the calculated brightness for at least a portion of the second image region based at least in part on the standard brightness comprise means for determining, of the calculated brightness for at least a portion of the second image region having a non-uniform brightness, (col.12, lines 54-60, irregularity in density attributable to the bound portion).

With respect to claim 38, Takahashi teaches the apparatus, (fig 3 and 4), wherein the means (scanner 101 of fig 3) for scanning of the smooth image region with a uniform brightness comprises, means for scanning of the smooth image region with a uniform brightness prior to scanning the second image region (col.12, lines 17-25).

With respect to claim 39, Takahashi teaches an apparatus, (fig 3 and 4), wherein the means (scanner 101 of fig 3) for scanning of the smooth image region with a uniform brightness comprises means for scanning of the smooth image region with a uniform brightness after scanning the second image region (col.5, lines 50-55).

With respect to claim 40, Takahashi et al., teaches a scanner, (as shown fig 1) comprising; and wherein the scanner (101 of fig 2) is capable of determining a

calculated brightness for at least a portion of a second image region based at least in part on the standard brightness, (col.12, lines 17-25).

Takahashi et al., does not expressly teach or disclose scanning a predetermined number of multiple original pixels, wherein one or more of the scanned original pixels correspond to a second image region; and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels.

Kodaira (059), in the same area of image forming device and density convert ion and correction apparatus teaches or discloses scanning a predetermined number of multiple original pixels, (a seen in fig 1, numbers of image are to be read or scanned) wherein one or more of the scanned original pixels correspond to a second image region (the pre scanned image of fig 1-3, corresponding to the finally read image for further enhancement and correction brightness); and determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels (the average brightness of the original is calculated from pre-scan image., col.1, lines 40-46).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Takahashi (662) to provide scanning a predetermined number of multiple original pixels, wherein one or more of the scanned original pixels correspond to a second image region; and

determining a calculated brightness for at least one of the scanned original pixels corresponding to the second image region based at least in part on the standard brightness and the other scanned original pixels in the predetermined number of multiple original pixels.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Tkahasi (662) by the teaching of Kodaira (059) for the purpose to provide a user with an image forming apparatus which optimizes corrective conditions with ease by eliminating image deterioration caused by image quality change with time or the characteristics of each copying machine.

With respect to claim 41, Takahashi et al., teaches a scanner, (as shown fig 1) comprising; and wherein the scanner (101 of fig 2) is capable of detecting a calculated brightness for at least a portion of a second image region based at least in part on the standard brightness, (col.12, lines 17-25).

Allowable Subject Matter

4. The following is a statement of reasons for the indication of allowable subject matter: Claims 10-15 and 20-25, are allowed. With respect to claims 10-15 and 20-25, the prior art searched and of the record does not teach or disclose the subject matter of claims 10-15 and 20-25, of the application.

Claims objected to having Allowable Subject Matter

5. Claims 3-6, 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Negussie Worku whose telephone number is 571-272-7472. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on 571-272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Negussie Worku
Examiner
Art Unit 2625

December 20, 2007

AUNG S. MOE
SUPERVISORY PATENT EXAMINER
12/21/07